

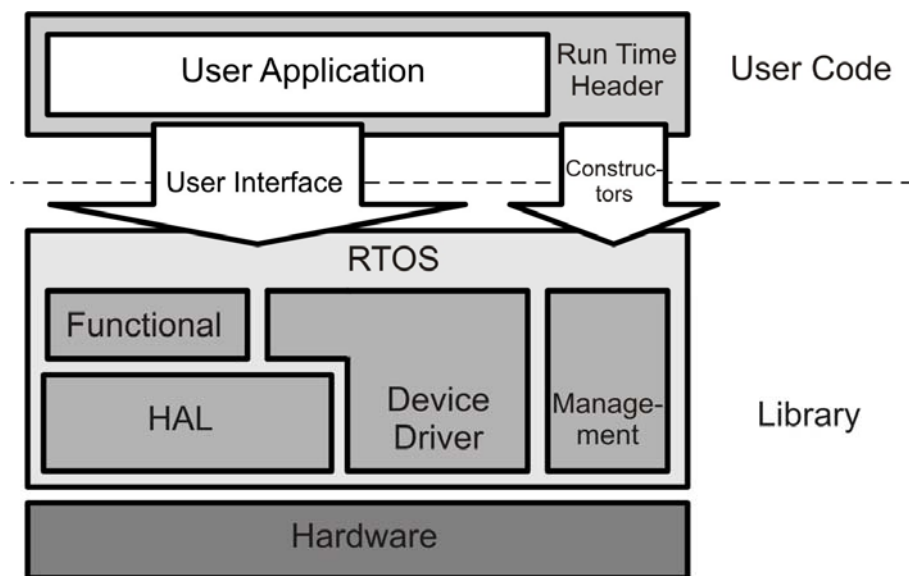
Real-time Operating System

AixOS

Designed for Power Control Systems

NEW!

The AixOS operating system is one of our latest products supporting the rapid development of power control applications. Its structure combines the requirements and the advantages of two worlds: On the one hand the versatility of classical operating systems and on the other hand the high reaction speed and compact size of power electronic controls. AixOS has been developed for our compact control module XCP 2100 and the high performance Blackfin[®] DSP from Analog Devices to allow easy and comfortable development of control schemes with communication abilities.



True Real-Time Multitasking

The design of AixOS has been optimized for real-time critical applications. With its monolithic micro kernel AixOS requires only little resources of memory and processing overhead to offer a flexible operating system. It utilizes a priority scheme to allow deterministic handling of the multi tasking priorities and task sequence. Due to its compact size and special structure AixOS achieves **interrupt latencies of less than 1 µs** as well as **context switches of about 1.5 µs**. To avoid influences between individual tasks the memory management unit (MMU) of the Blackfin[®] DSP is used to supervise memory resources and to assign access rights.

Easy Programming of Control and Communication Tasks

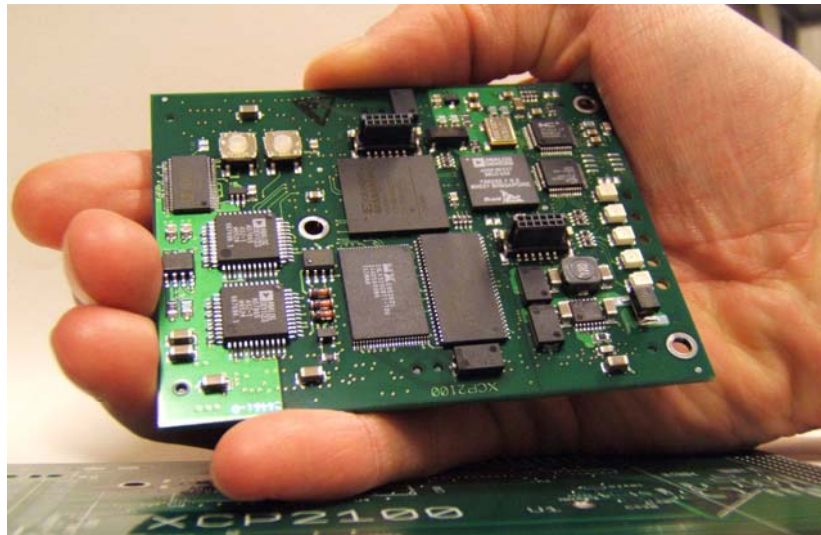
Developing programs with AixOS can be done easily in C++ (C to follow soon). The user can create static and dynamic tasks, start or stop them. Each task can be placed in either the internal extremely fast memory segment (e.g. control code) or the external large memory sections for extensive communication programs. In principle the number of tasks is limited only by the total amount of system memory.

Embedded Drivers for Communication

AixOS offers a variety of embedded drivers to facilitate very easy usage of the large amount of internal and external interfaces. The following drivers are available:

- ◆ 10/100 MBit-Ethernet via TCP/IP;
- ◆ CAN-Bus interface with 32 message boxes;
- ◆ RS 232 interface with FIFO;
- ◆ Compact Flash interface with 16/32 Bit file system;
- ◆ SPI
- ◆ TWI (two wire interface)
- ◆ USB1.1*
- ◆ SPORT (high speed serial communication port)
- ◆ PPI (half-duplex 16 bit high-speed parallel port)

(*still in development)



AixOS is specially designed for the XCP 2100 Control Module

Contact: Dr. Jochen von Bloh
Address: AixControl GmbH
Jaegerstraße 17/19
52066 Aachen
Germany

Phone: +49-241-80 969 64
Fax: +49-241-80 922 03
E-mail: info@aixcontrol.de
Web: <http://www.AixControl.de/>